

NOVEMBER 2019



**WIM #27  
MN 60,  
MP 64.8  
ST. JAMES, MN**

**MONTHLY  
REPORT**



*Your Destination...Our Priority*



## WIM Site Location

WIM #27 is located on MN 60 near St. James in Watonwan county.

## System Operation

WIM #27 was operational for the entire month of November 2019. Volume was computed using all monthly data.

## System Calibration

WIM #27 was most recently calibrated on 2015-06-17. Table 1 summarizes the front axle weights of class 9s by lane <sup>1</sup>. Figure 1 shows the distribution of gross vehicle weights (GVW) in Class 9 vehicles at this site for the last 12 months of operation <sup>2</sup>. Figure 2 depicts the average front axle weight as a percent difference from the first full month following calibration.

## Summary of Volume Statistics

Total Monthly Volume: 187005 | Passenger Vehicles: 152093 | Heavy Commercial Vehicles: 34912

Monthly Average Daily Traffic (MADT): 6444 | Monthly Heavy Commercial Average Daily Traffic (MHCADT): 1164

See Table 2 for vehicle class breakdown

## Passenger Vehicles (PVs) and Heavy Commercial Vehicles (HCVs)

**Volume trends.** EB vehicles typically reached highest volume levels on Sundays, with lowest volumes reported on Wednesdays. WB vehicles typically reached highest volume levels on Sundays, with lowest volumes reported on Tuesdays (see Figure 3 and 4).

### Passenger Vehicles (PVs)

**Volume trends.** On an average 24-hour day (see Figure 5), EB PVs generally reached peak volume levels between 02 PM and 04 PM. Similarly, WB PVs peaked in volume between 03 PM and 05 PM

### Heavy Commercial Vehicles (HCVs)

**Volume trends.** On an average 24-hour day, HCVs traveling EB typically reached peak volume levels between 02 PM and 04 PM, while volume going WB peaked between 03 PM and 05 PM. See Figure 6. Out of all HCVs, the two highest traffic volumes were generated by Class 9's and Class 5's.

### Overweight HCVs

**Volume trends.** Of a total of 34912 HCVs, 7626 of them were overweight <sup>3</sup>. These overweight HCVs contributed to 4.3% of total monthly volume, and 23% of total monthly

HCV volume. EB overweight vehicles typically reached highest numbers on Tuesdays, with lowest volumes reported on Saturdays. WB overweight vehicles tended to reach highest volumes on Mondays, with lowest volumes reported on Saturdays. See Figure 3 .

The top two overweight violators by class were the class 9 and class 10 vehicles . Overall, overweight vehicles tended to reach peak volume concentrations during typical business hours, with 75.3% of all overweight vehicles traveling EB this month (see Figure 7 & 8). Figure 9 shows the number of vehicles exceeding 88,000 pounds that crossed the WIM over the last 12 months. The highest number of 88,000+ vehicles within the last 12 months occurred in November.

WIMs are currently used as a screening tool for weight enforcement, and it is estimated that the WIM scales can measure gross vehicle weights (GVW) within 90-95% of static weight scale measurements. Due to the possibility of measurement error, vehicles exceeding 10% of their legal weight limits (or 1.1 times their legal weight limits) are considered overweight in this report <sup>4</sup>.

Using normal load limits ,2451 EB vehicles exceeded 88,000 pounds (2060 vehicles were Class 9's; 159 vehicles were Class 10's). Of vehicles traveling WB,

175 EB vehicles exceeded 88,000 pounds (84 vehicles were Class 10's; 47 vehicles were Class 9's). Refer to Table 3 for the Top 10 highest recorded GVWs from Classes 9 and 10 from November 2019.

**Loaded vs. Unloaded HCVs.** Figure 10 shows the GVW distributions of Class 9s and 10s in November 2019. Data suggests that there were greater numbers of fully\_loaded Class 9's than empty Class 9's traveling EB, while there were more fully\_loaded Class 9's than empty traveling WB. Data also suggests that there were more fully\_loaded Class 10's than empty traveling in the EB direction. In the WB direction, there were more fully\_loaded class 10 vehicles.

**Freight Totals.** A total of 393768 tons of freight was recorded to have crossed the WIM. More freight was shipped EB (58.8%) than WB (41.2%). See Table 4 and Figure 11 for more freight information.

**#####Infrastructure Considerations Bridge.** Bridge No. 93716, an arch pipe, is approximately 3.0 miles west of WIM #27 and Bridge No. 83030 is approximately 8.1 miles east of WIM #27. WIM #27 recorded a total of 187005 vehicles with a combined GVW of 2514194 kips (1 kip = 1,000 pounds = 0.5 tons) in November 2019. See Table 5 and Figures 12-13 for GVW information by vehicle class and lane.

**Pavement Design.** A total of 105859 equivalent single axle loads (ESALs) passed over the pavement at this site. Approximately 86.5% of all ESALs were recorded EB while 13.5% was observed WB. In particular, 63% of all ESALs were generated by the Class 14's (Class 14's were also responsible for generating % of total GVW observed this month). See Table 6 and Figures 14-15 for more information on ESALs (Table 6 also provides flexible ESAL factors for each vehicle class using a terminal serviceability of 2.5 and a structural number of 5).

#####WIM monthly reports can be found at:

<http://www.dot.state.mn.us/traffic/data/reports-monthly-wim.html> MnDOT's vehicle

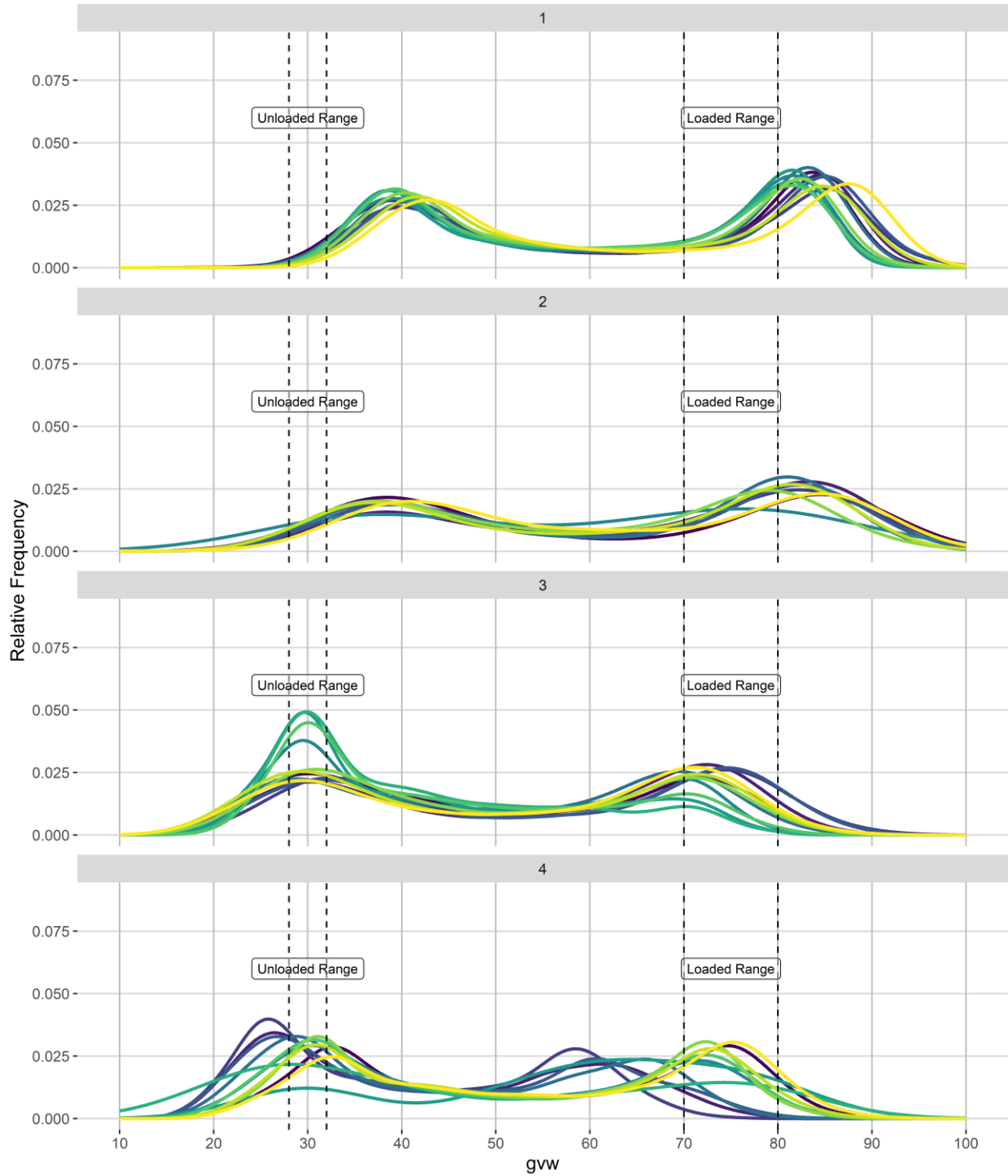


classification scheme and vehicle class groupings for traffic forecasting can be found at:  
<http://www.dot.state.mn.us/traffic/data/data-products.html#weight>

- <sup>1</sup> Front axle weights of Class 9s are monitored on a monthly basis to assure performance between calibrations. The current goal of the WIM scale calibration is to have each individual axle weight stay within a range of ±9% of baseline calibration values
- <sup>2</sup> Previous WIM research indicates that unloaded Class 9s typically weigh 28-32 kips, while loaded Class 9s generally fall in the 70-80 kip range. More recent data from several WIM sites suggests that the unloaded Class 9 range may have moved a little higher over time (due to increased presence of sleeper cabs, etc.), although these ranges are also thought to be site-specific.
- <sup>3</sup> An HCV is considered overweight during normal load limits in this report if they satisfy any of the following 1) exceed a gross vehicle weight (GVW) of 80,000 pounds, 2) exceed any of the legal weight maximums on any axle configurations (legal maximums are: single axle = 20,000 pounds; tandem axles spaced 8' or less = 34,000 pounds; tridem axles spaced 9' or less = 43,000 pounds; quad axles spaced 13' or less = 51,000 pounds). Monthly reports use this standard regardless of the time of year however, the Winter Load Increase (WLI) allows a 10% across the board increase in axle and gross vehicle weights without a permit on US, state routes, and county roads. An HCV is considered overweight during Winter Load Increase(WLI) if they satisfy any of the following 1) exceed a gross vehicle weight (GVW) of 88,000 pounds, 2) exceed any of the legal weight maximums on any axle configurations (legal maximums are: single axle = 22,000 pounds; tandem axles spaced 8' or less = 37,400 pounds; tridem axles spaced 9' or less = 47,300 pounds; quad axles spaced 13' or less = 56,100 pounds). An overweight HCV is only included once in the overweight volume calculations regardless of how many of the aforementioned conditions are violated. For information on MN weight limit dates and statutes:  
[http://www.mrr.dot.state.mn.us/research/seasonal\\_load\\_limits/sllindex.asp](http://www.mrr.dot.state.mn.us/research/seasonal_load_limits/sllindex.asp)
- <sup>4</sup> For example, Class 9s and 10s can legally have gross vehicle weights up to 80,000 lbs (with the exception of permitted loads) during normal load limits. To account for measurement error on the WIM scales, those exceeding 10% of the legal GVW maximum (or 1.1 times the legal GVW) should be screened (e.g., 80,000 lbs + 8,000 lbs = 88,000 lbs). Similarly during WLI vehicles weighing 96,800 lbs should be screened.

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Figure 1 - Monthly Class 9 GVW Histogram

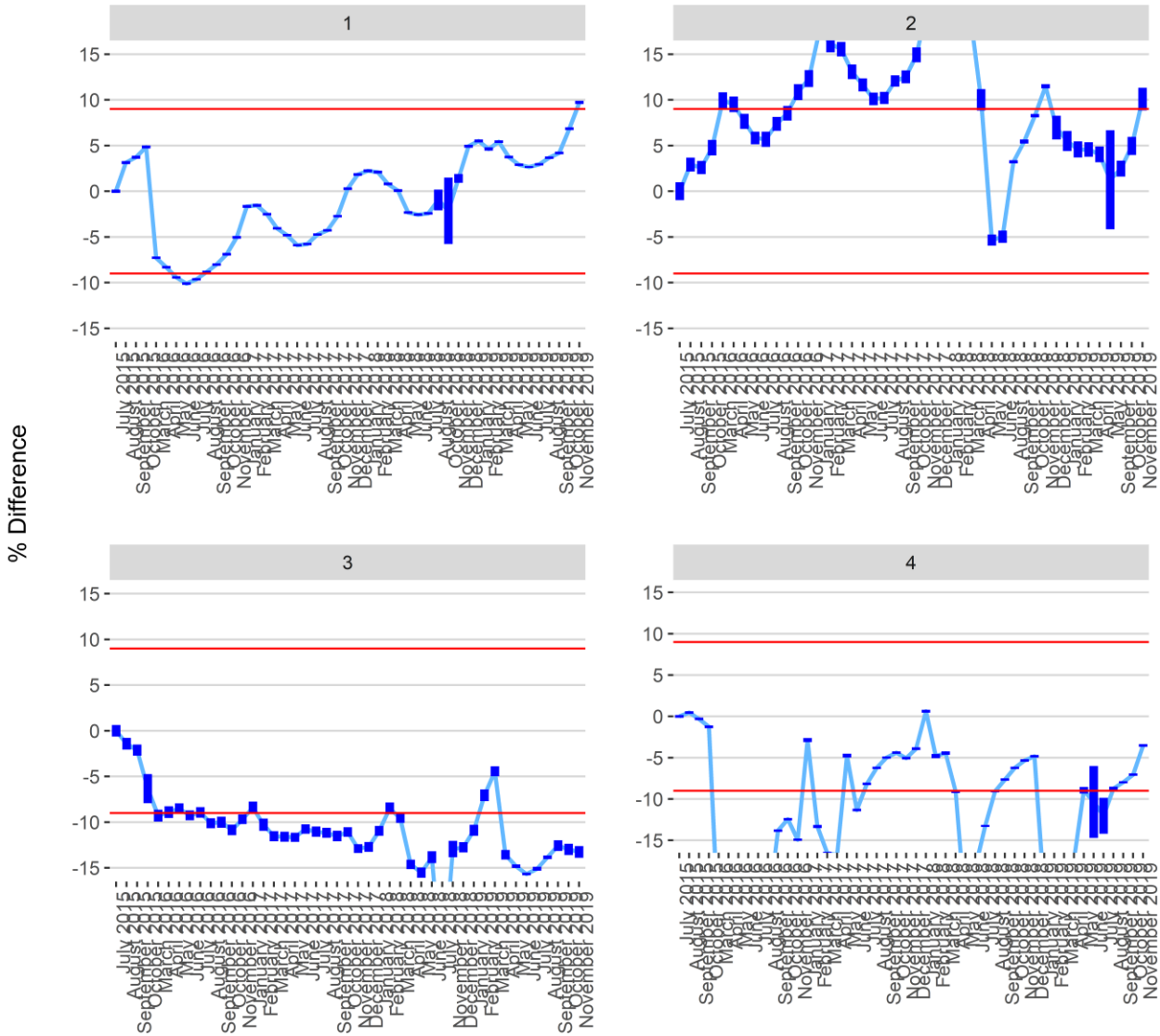


Time

December 2018	March 2019	June 2019	September 2019
January 2019	April 2019	July 2019	October 2019
February 2019	May 2019	August 2019	November 2019

Months that have not passed QC parameters are not displayed

Figure 2 - Percent Difference of Front Axle Weight from Last Calibration (+/- 95% CI)



Months that have not passed QC parameters are not displayed

Figure 2 - Average Vehicle Volume  
vs. Day of the Week

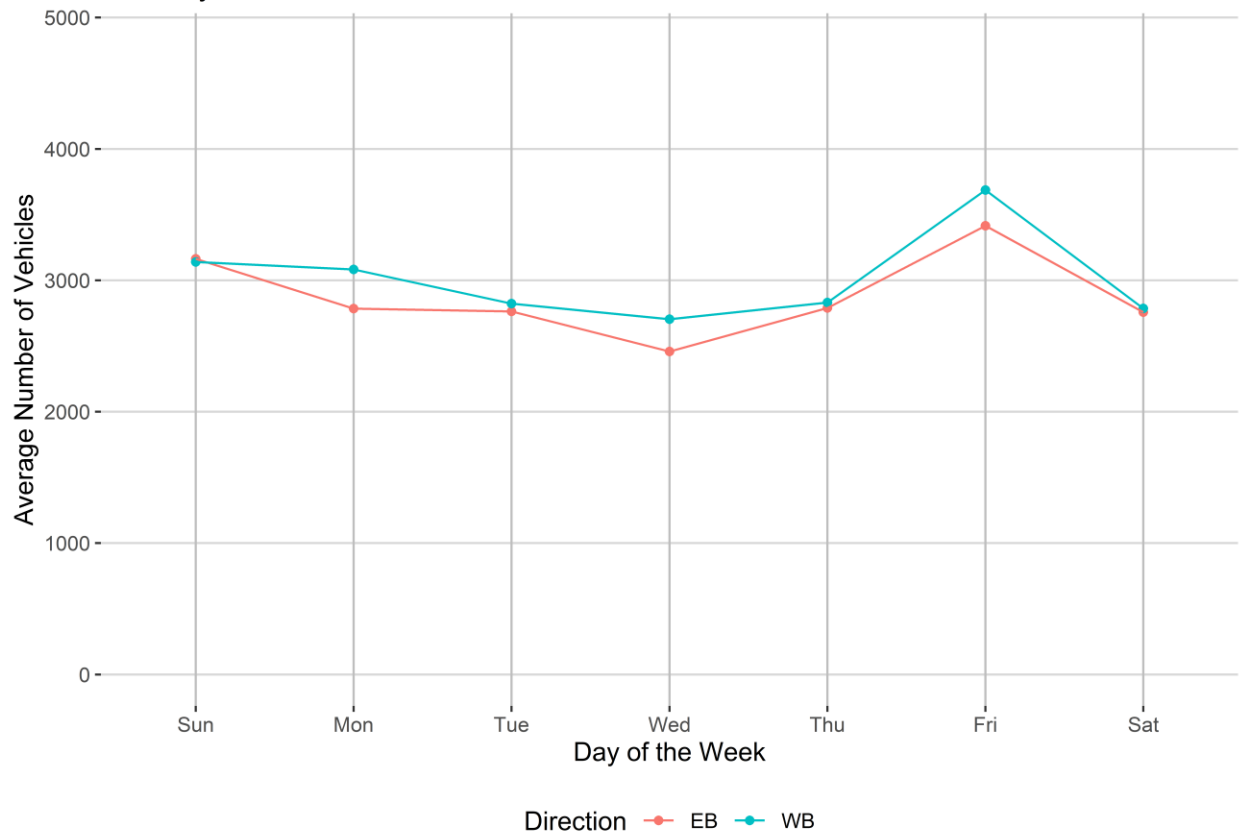


Figure 3 - Average Overweight Vehicle Volume  
vs. Day of the Week

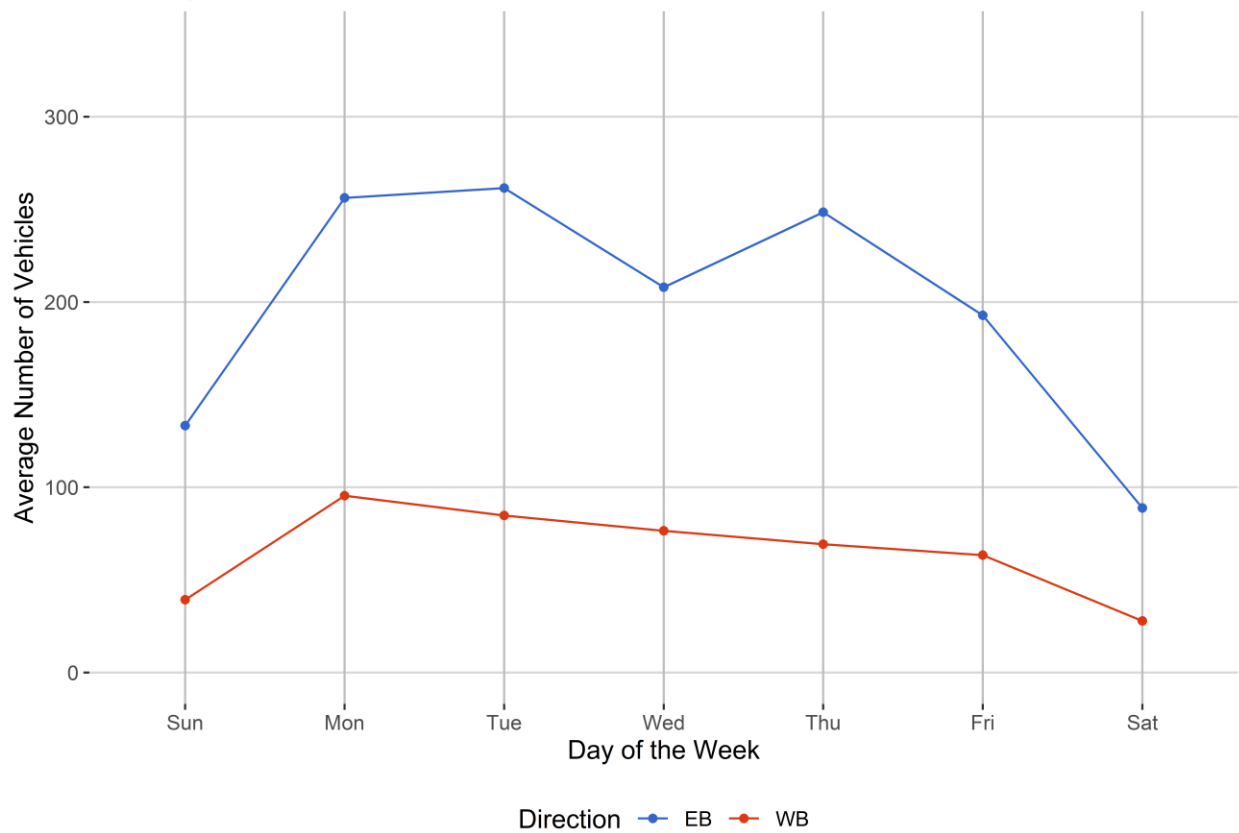


Figure 4 - Passenger Vehicles  
vs. Hour of the Day

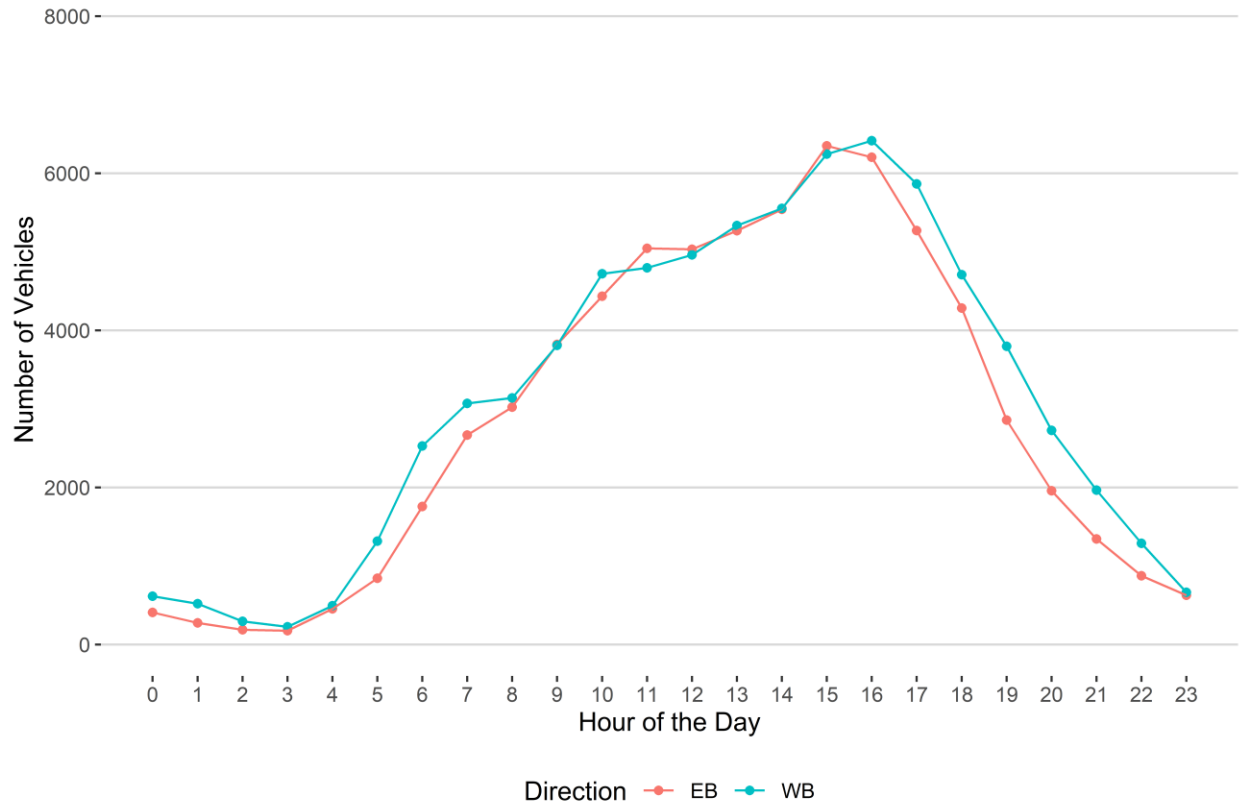


Figure 5 - Heavy Commercial Vehicles  
vs. Hour of the Day

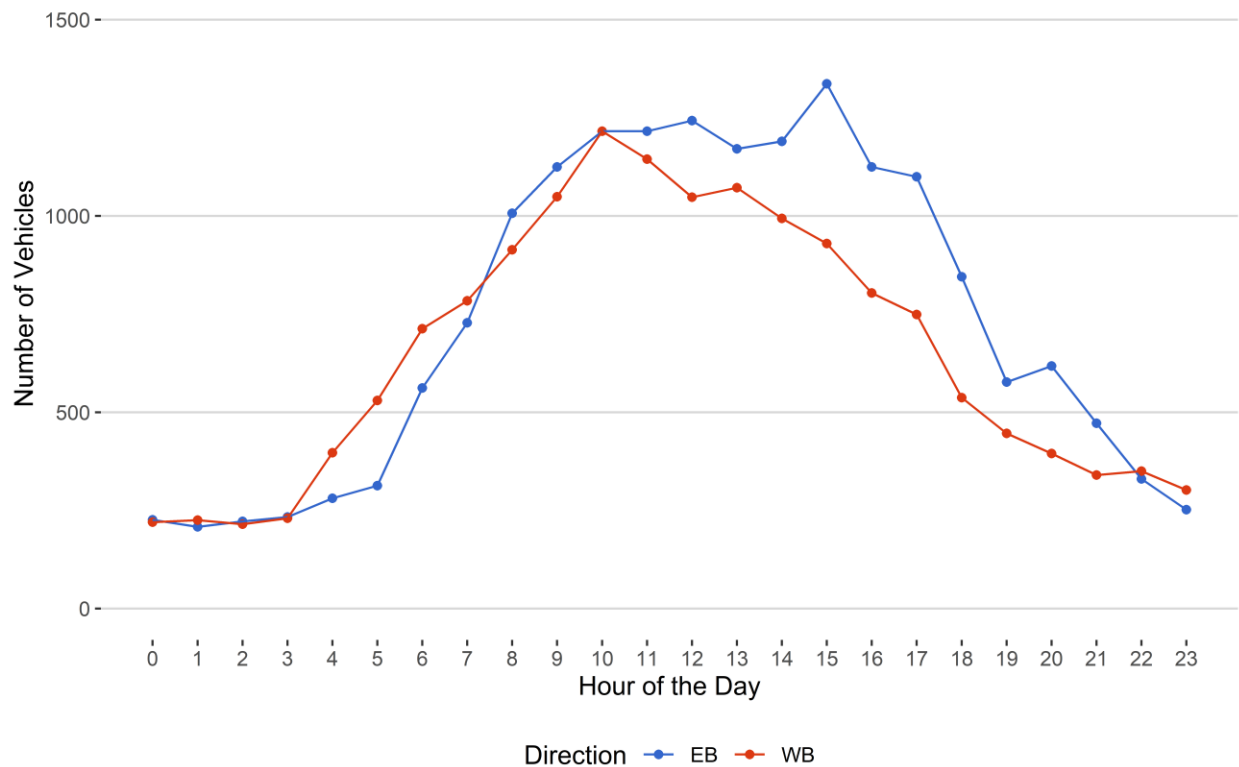




Figure 6 - Overweight Vehicles by Class  
vs. Hour of the Day

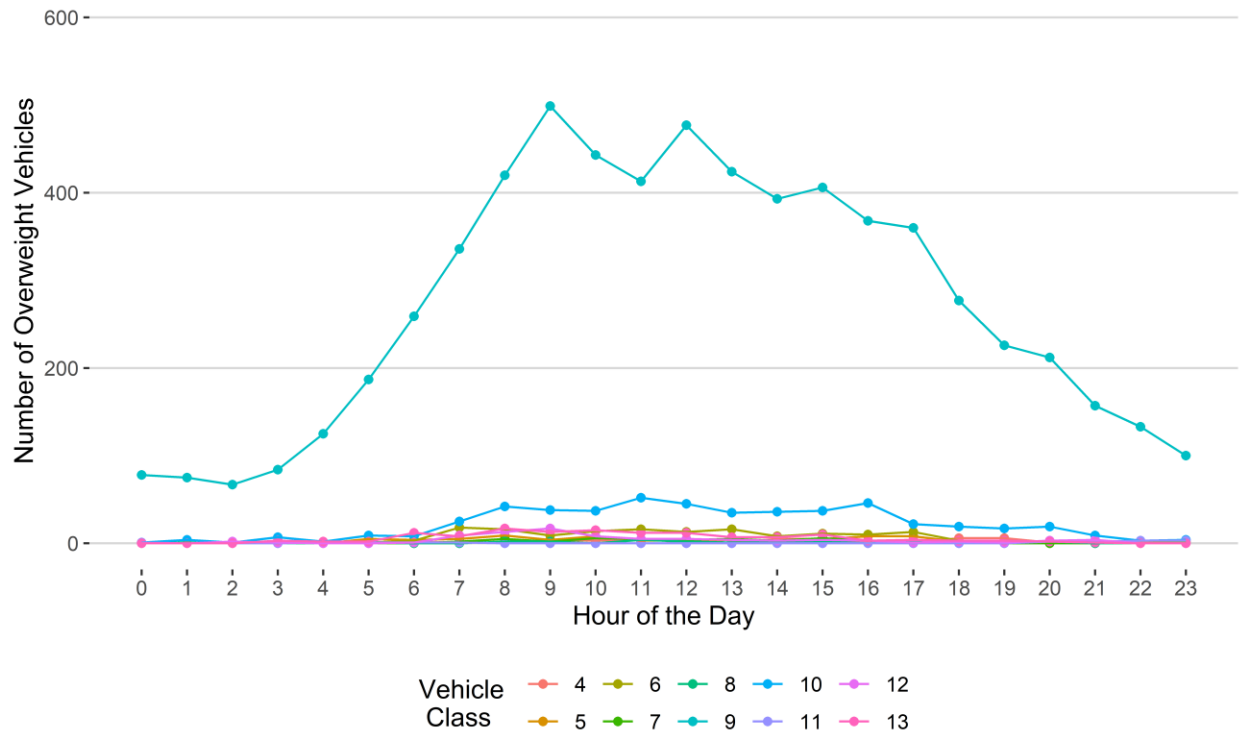


Figure 7 - Overweight Vehicles by Direction  
Hour of the Day

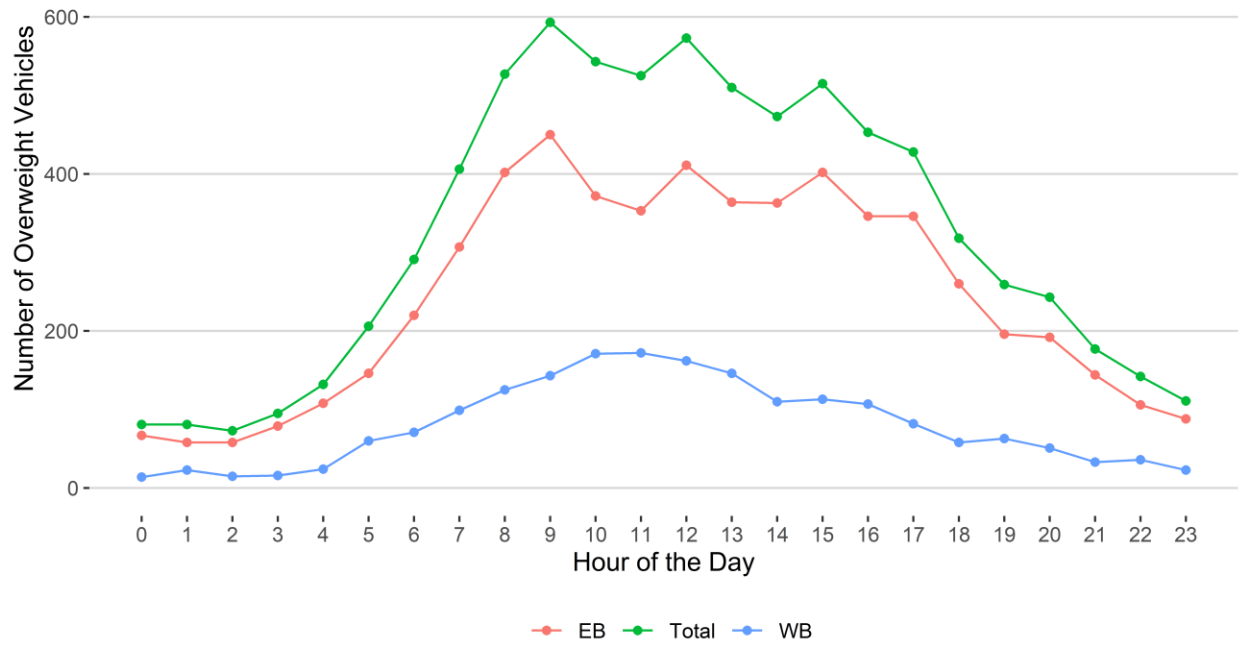
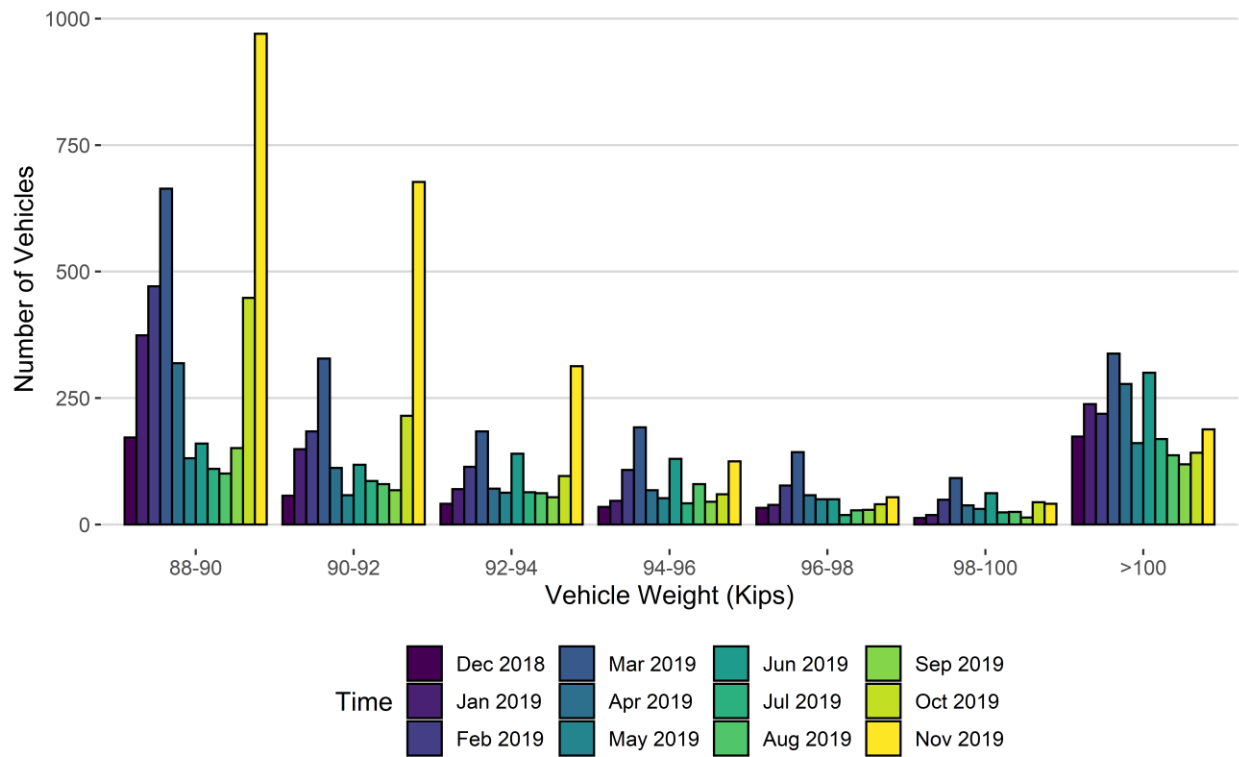
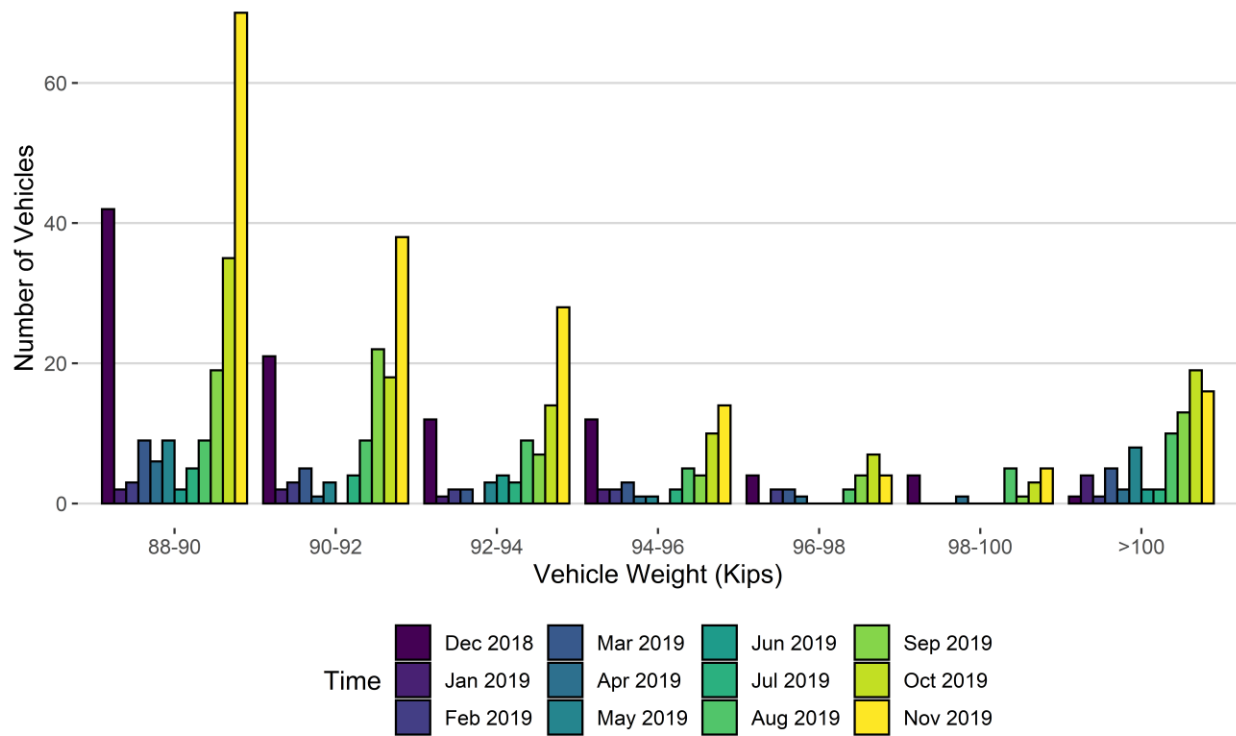


Figure 8 - Histogram of EB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019
88-90	172	374	471	664	319	131	160	110	101	151	448	970
90-92	57	149	184	328	112	58	118	86	80	68	215	677
92-94	41	70	114	184	71	63	140	64	62	54	96	313
94-96	35	47	108	192	68	52	130	42	80	45	60	125
96-98	33	39	77	143	58	50	50	19	28	29	40	54
98-100	13	19	49	92	38	31	62	24	25	14	44	41
>100	174	238	219	338	278	161	300	169	137	119	142	188
Total	525	936	1222	1941	944	546	960	514	513	480	1045	2368

Figure 8 - Histogram of WB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019
88-90	42	2	3	9	6	9	2	5	9	19	35	70
90-92	21	2	3	5	1	3	0	4	9	22	18	38
92-94	12	1	2	2	0	3	4	3	9	7	14	28
94-96	12	2	2	3	1	1	0	2	5	4	10	14
96-98	4	0	2	2	1	0	0	0	2	4	7	4
98-100	4	0	0	0	1	0	0	0	5	1	3	5
>100	1	4	1	5	2	8	2	2	10	13	19	16
Total	96	11	13	26	12	24	8	16	49	70	106	175

Figure 8 - Class 9's and 10's by Direction  
vs Gross Vehicle Weight

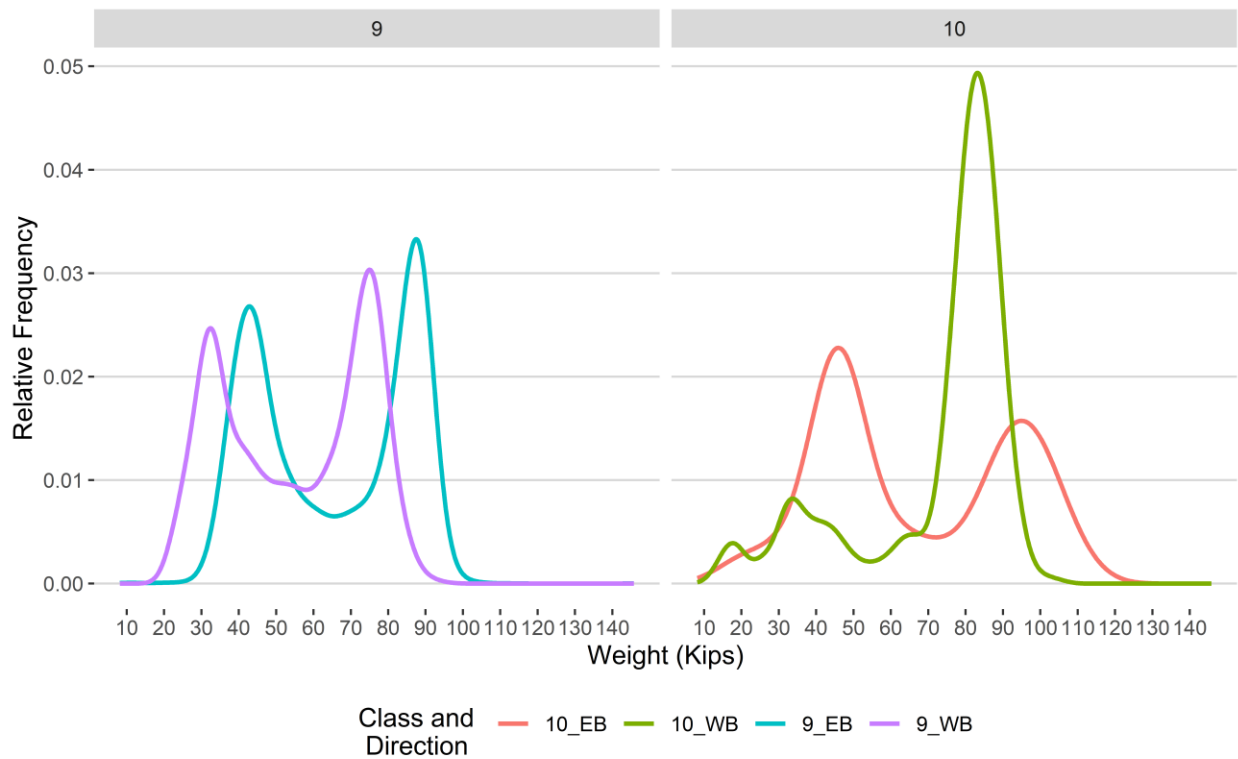


Figure 9 - Freight Percentage  
by Direction and Class

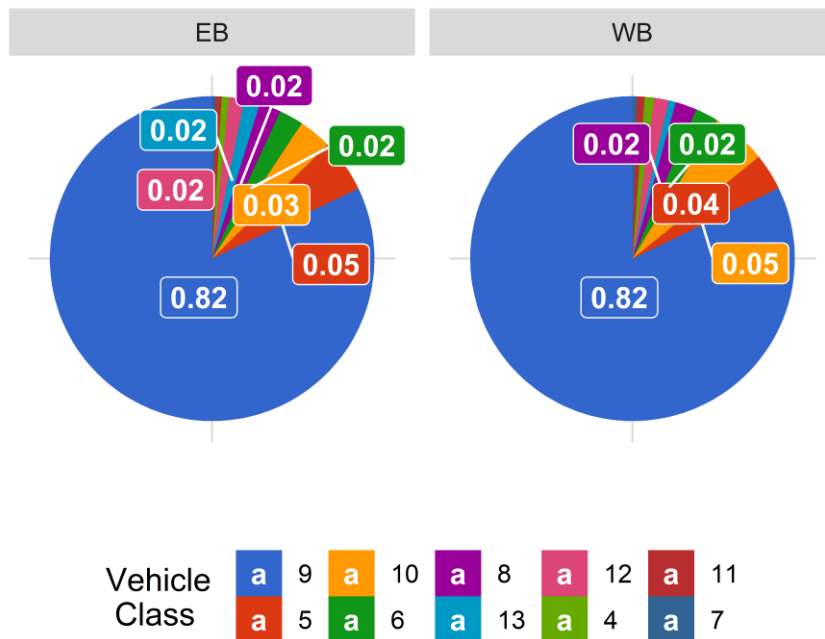




Figure 10 - Total Gross Vehicle Weight Percentage by Class and Lane

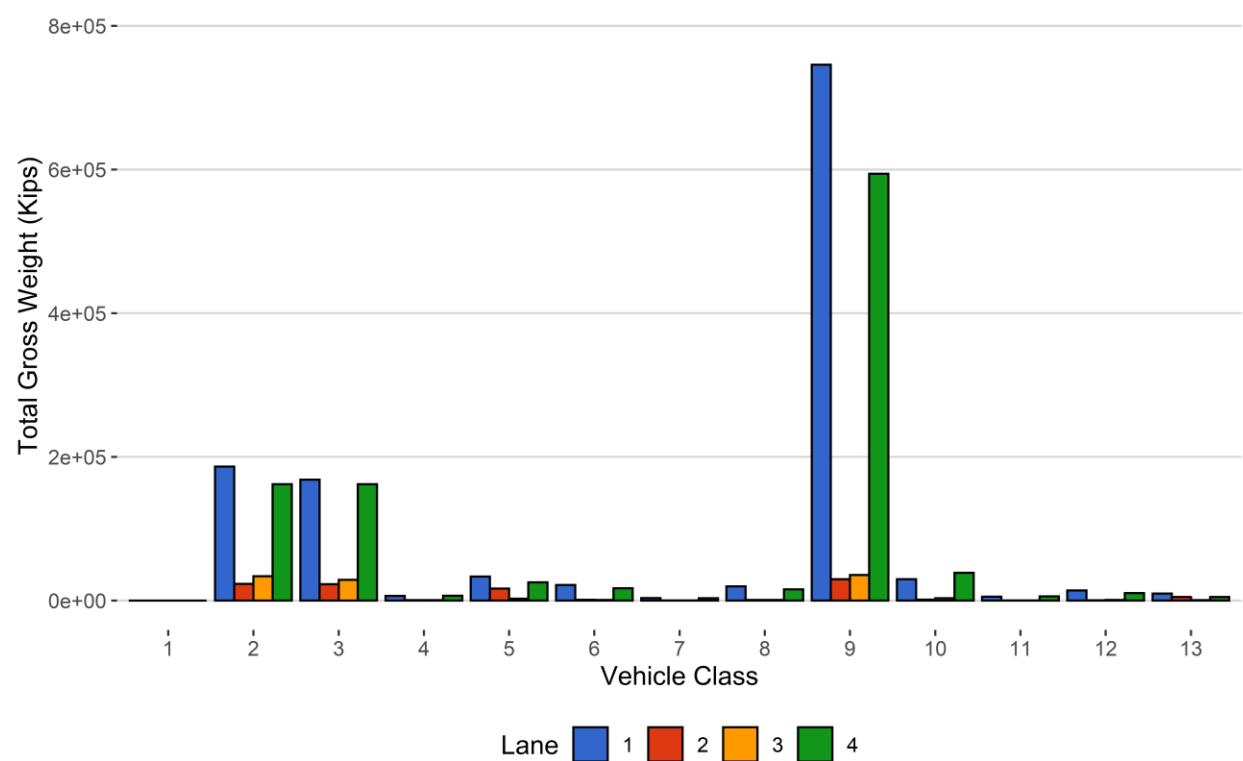


Figure 11 - Total Gross Vehicle Weight t

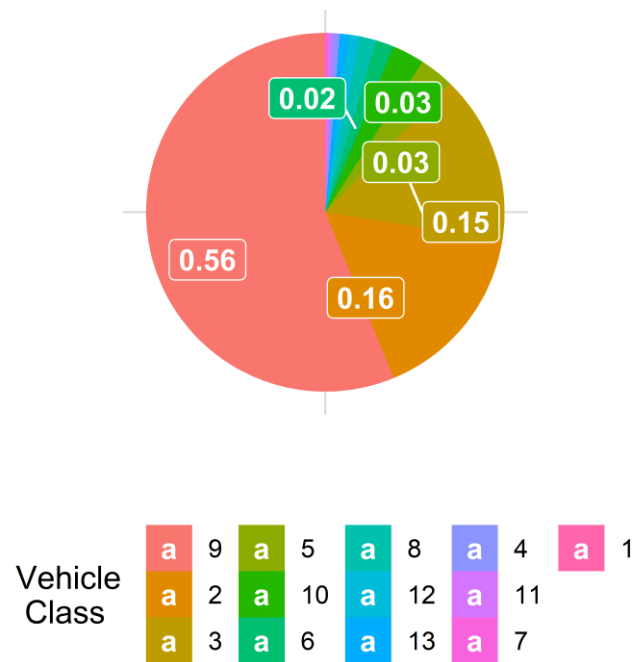


Figure 12 - Total ESALs by Class and Lane

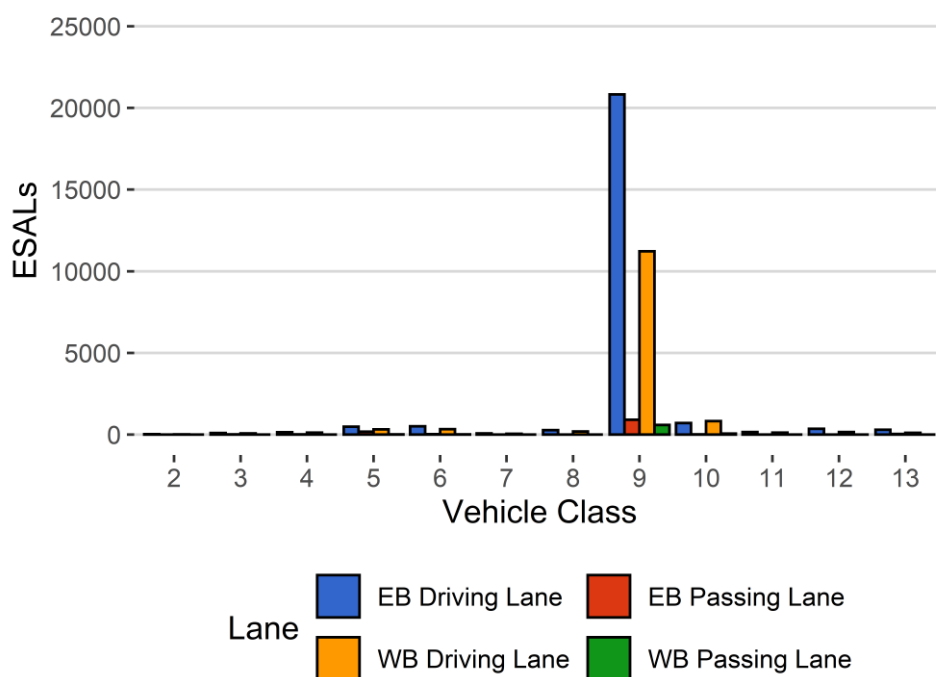
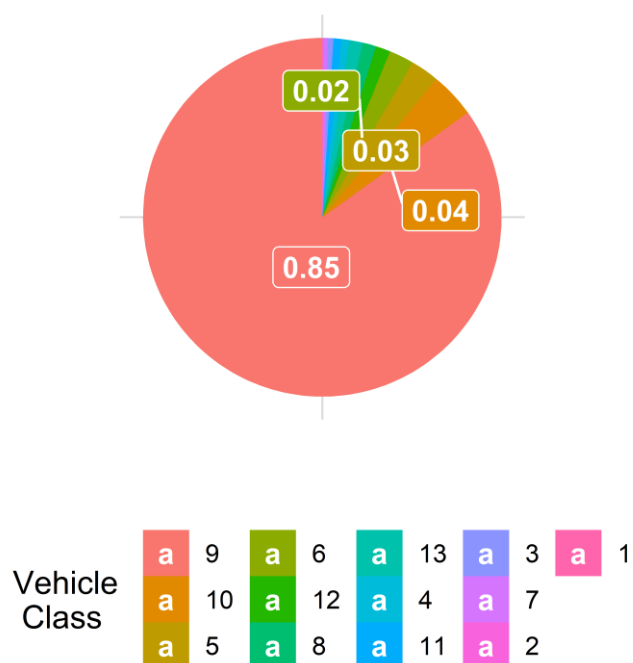


Figure 13 - ESALs by Class



**Table 1 Class 9 Front Axle Weight by Lane**

<i>Month</i>	<i>Lane 1 (Kips)</i>	<i>Front Axle +/- 9%</i>	<i>Lane 2 (Kips)</i>	<i>Front Axle +/- 9%</i>	<i>Lane 3 (Kips)</i>	<i>Front Axle +/- 9%</i>	<i>Lane 4 (kips)</i>	<i>Front Axle +/- 9%</i>
July 2015	11.23	0.00	11.34	0.00	12.02	0.00	11.77	0.00
August 2015	11.58	3.14	11.67	2.91	11.85	-1.42	11.83	0.45
September 2015	11.64	3.73	11.63	2.59	11.77	-2.12	11.74	-0.31
October 2015	11.77	4.84	11.88	4.77	11.26	-6.34	11.63	-1.26
March 2016	10.41	-7.28	12.46	9.93	10.90	-9.29	8.69	-26.23
April 2016	10.29	-8.32	12.41	9.51	10.95	-8.90	8.97	-23.79
May 2016	10.17	-9.43	12.20	7.65	11.00	-8.51	8.92	-24.24
June 2016	10.09	-10.11	12.00	5.83	10.91	-9.26	8.54	-27.43
July 2016	10.14	-9.64	11.98	5.69	10.95	-8.93	8.69	-26.23
August 2016	10.23	-8.84	12.17	7.38	10.81	-10.12	9.00	-23.54
September 2016	10.33	-8.02	12.30	8.54	10.82	-10.01	10.15	-13.83
October 2016	10.45	-6.90	12.56	10.85	10.72	-10.86	10.31	-12.44
November 2016	10.66	-5.04	12.73	12.33	10.86	-9.69	10.02	-14.93
January 2017	11.04	-1.66	13.34	17.68	11.01	-8.41	11.44	-2.87
February 2017	11.05	-1.55	13.17	16.16	10.79	-10.28	10.20	-13.33
March 2017	10.94	-2.52	13.10	15.55	10.63	-11.54	9.82	-16.56
April 2017	10.77	-4.06	12.82	13.08	10.63	-11.60	9.80	-16.77
May 2017	10.69	-4.81	12.65	11.63	10.62	-11.66	11.21	-4.76
June 2017	10.56	-5.91	12.48	10.11	10.73	-10.76	10.44	-11.33
July 2017	10.58	-5.78	12.49	10.22	10.69	-11.05	10.81	-8.17
August 2017	10.69	-4.74	12.70	12.07	10.68	-11.18	11.04	-6.24
September 2017	10.75	-4.28	12.75	12.51	10.64	-11.51	11.19	-4.99
October 2017	10.92	-2.73	13.03	14.92	10.69	-11.08	11.26	-4.39
November 2017	11.26	0.29	13.63	20.20	10.47	-12.89	11.18	-5.06
December 2017	11.43	1.83	13.73	21.08	10.49	-12.71	11.31	-3.91
January	11.48	2.24	13.94	23.01	10.70	-10.96	11.85	0.62

2018								
February 2018	11.46	2.10	13.98	23.31	11.00	-8.49	11.21	-4.81
March 2018	11.32	0.80	13.52	19.27	10.87	-9.56	11.25	-4.44
April 2018	11.23	0.07	12.47	10.01	10.26	-14.62	10.71	-9.08
May 2018	10.97	-2.33	10.73	-5.35	10.16	-15.52	8.99	-23.61
June 2018	10.94	-2.56	10.77	-4.98	10.36	-13.85	9.62	-18.28
July 2018	10.95	-2.42	NA	NA	8.76	-27.15	10.21	-13.26
August 2018	11.12	-0.96	11.70	3.22	NA	NA	10.71	-9.07
October 2018	10.99	-2.14	12.27	8.27	NA	NA	11.04	-6.24
November 2018	11.38	1.41	12.64	11.49	10.47	-12.95	11.15	-5.34
December 2018	11.78	4.92	12.12	6.96	10.49	-12.76	11.21	-4.83
January 2019	11.84	5.50	11.96	5.49	10.71	-10.89	9.24	-21.53
February 2019	11.75	4.62	11.85	4.57	11.17	-7.06	8.89	-24.48
March 2019	11.84	5.42	11.85	4.57	11.49	-4.43	9.54	-18.98
April 2019	11.65	3.74	11.79	4.04	10.39	-13.57	9.73	-17.34
May 2019	11.55	2.90	11.48	1.26	10.24	-14.82	10.72	-8.94
June 2019	11.52	2.65	NA	NA	10.14	-15.68	10.55	-10.36
July 2019	11.56	2.94	NA	NA	10.21	-15.10	10.36	-12.03
August 2019	11.64	3.68	NA	NA	10.36	-13.84	10.74	-8.74
September 2019	11.70	4.19	11.62	2.48	10.51	-12.57	10.84	-7.97
October 2019	11.99	6.84	11.90	4.96	10.46	-12.98	10.94	-7.05
November 2019	12.32	9.72	12.48	10.09	10.43	-13.26	11.36	-3.53

**Table 2 Vehicle Classification Data**

<i>Vehicle Class</i>	<i>Monthly Average Daily Volume</i>	<i>Monthly Total Volume</i>	<i>Monthly Total Volume Percentage</i>	<i>Monthly Total Overweight Vehicles</i>	<i>Monthly Total Overweight Percentage</i>
1	0	1	0	0	0
2	3137	94119	50.3	0	0
3	1932	57973	31	0	0
4	17	497	0.3	49	0.6
5	178	5348	2.9	80	1
6	44	1328	0.7	157	2.1
7	4	117	0.1	43	0.6
8	37	1111	0.6	23	0.3
9	814	24408	13.1	6519	85.5
10	36	1094	0.6	518	6.8
11	7	201	0.1	15	0.2
12	13	381	0.2	86	1.1
13	14	427	0.2	136	1.8
<b>TOTAL</b>	<b>6234</b>	<b>187005</b>	<b>100</b>	<b>7626</b>	<b>100</b>



**Table 3 Top 10 Gross Vehicle Weight, Class 9 and 10**

<i>Date</i>	<i>Day of Week</i>	<i>Time</i>	<i>Vehicle Class</i>	<i>Direction</i>	<i>Lane</i>	<i>GVW (lbs)</i>
2019-11-11	Monday	13:34:02	9	EB	2	145.79
2019-11-12	Tuesday	15:12:42	9	EB	2	145.42
2019-11-23	Saturday	15:19:11	9	EB	2	136.56
2019-11-08	Friday	13:47:57	9	EB	2	116.85
2019-11-04	Monday	18:18:57	10	EB	1	113.82
2019-11-25	Monday	11:27:10	9	EB	2	112.72
2019-11-26	Tuesday	12:47:38	10	EB	1	111.66
2019-11-11	Monday	13:34:04	9	EB	2	111.43
2019-11-10	Sunday	11:03:34	10	EB	1	110.88
2019-11-15	Friday	05:26:42	10	EB	1	110.87

**Table 4 Freight Summary**

<i>Vehicle Class</i>	<i>Direction</i>	<i>Weight of Empty Vehicle (Kips)</i>	<i>Total Number of Vehicles</i>	<i>Number of Empty Vehicles</i>	<i>Percentage of Empty Vehicles</i>	<i>Total Weight of Vehicles with Freight (Kips)</i>	<i>Total Weight of Empty Vehicles (Kips)</i>	<i>Total Weight of Freight (Tons)</i>
4	EB	15	221	18	8.1	6722	245	1838
5	EB	8	3161	36	1.1	49686	261	12343
6	EB	19	674	6	0.9	22703	90	5006
7	EB	11.5	56	1	1.8	3482	10	1425
8	EB	31	557	109	19.6	18287	2148	2199
9	EB	33	11832	105	0.9	772442	3027	192725
10	EB	33.5	466	33	7.1	30058	826	7776
11	EB	36.5	89	1	1.1	5354	20	1071
12	EB	36.5	192	1	0.5	14283	17	3656
13	EB	31.5	349	250	71.6	10418	4338	3650
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>17597</b>	<b>560</b>	<b>****</b>	<b>933435</b>	<b>****</b>	<b>231689</b>
<i>Vehicle Class</i>	<i>Direction</i>	<i>Weight of Empty Vehicle (Kips)</i>	<i>Total Number of Vehicles</i>	<i>Number of Empty Vehicles</i>	<i>Percentage of Empty Vehicles</i>	<i>Total Weight of Vehicles with Freight (Kips)</i>	<i>Total Weight of Empty Vehicles (Kips)</i>	<i>Total Weight of Freight (Tons)</i>
4	WB	15	252	41	16.3	6745	532	1790
5	WB	8	1925	194	10.1	26509	1422	6330
6	WB	19	589	106	18	15959	1866	3391
7	WB	11.5	55	0	0	3260	0	1314
8	WB	31	500	196	39.2	11513	4749	1045
9	WB	33	11381	2148	18.9	567354	62182	131332
10	WB	33.5	574	49	8.5	40563	1223	11488
11	WB	36.5	102	2	2	5919	61	1134
12	WB	36.5	170	0	0	11095	0	2445
13	WB	31.5	57	0	0	5415	0	1810
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>15605</b>	<b>2736</b>	<b>****</b>	<b>694332</b>	<b>****</b>	<b>162079</b>
<b>GRAND TOTAL</b>	<b>****</b>	<b>****</b>	<b>33202</b>	<b>3296</b>	<b>226</b>	<b>1627766</b>	<b>83014</b>	<b>393768</b>

**Table 5 Gross Vehicle Weight by Class and Lane**

<i>Vehicle Class</i>	<i>EB Driving Lane</i>	<i>EB Passing Lane</i>	<i>WB Passing Lane</i>	<i>WB Driving Lane</i>	<i>Total</i>	<i>Percentage</i>
1	0	0	0	0	0	0
2	186462	23242	33782	161879	405365	16.2
3	168308	22805	28723	161820	381656	15.3
4	6310	657	570	6706	14243	0.6
5	33390	16557	2584	25347	77878	3.1
6	21707	1085	861	16964	40618	1.6
7	3329	163	172	3089	6752	0.3
8	19770	665	723	15539	36697	1.5
9	745870	29598	35414	594122	1405004	56.2
10	29733	1151	3255	38531	72670	2.9
11	5324	50	113	5866	11353	0.5
12	13989	311	689	10406	25395	1
13	9767	4988	500	4915	20171	0.8
<b>TOTAL</b>	<b>1243959</b>	<b>101274</b>	<b>107386</b>	<b>1045182</b>	<b>2497802</b>	<b>100</b>
<b>GVW/LANE</b>	<b>49.8</b>	<b>4.05</b>	<b>4.3</b>	<b>41.84</b>	<b>100</b>	<b>0</b>

**Table 6 ESALs by Class and Lane and Flexible ESAL Factors**

<i>Vehicle Class</i>	<i>EB Driving Lane</i>	<i>EB Passing Lane</i>	<i>WB Passing Lane</i>	<i>WB Driving Lane</i>	<i>Total</i>	<i>Percentage</i>	<i>Flexible ESAL Factor</i>
1	0	0	0	0	0	0	0.5
2	34	6	4	22	66	0.17	0.0015
3	95	14	9	76	194	0.49	0.0071
4	140	18	6	127	292	0.74	1.23
5	493	176	21	325	1014	2.57	0.4
6	509	25	16	336	886	2.24	1.4
7	78	3	1	53	135	0.34	2.36
8	281	10	4	188	483	1.22	0.91
9	20822	915	598	11225	33560	84.93	2.89
10	712	21	62	825	1618	4.1	3.1
11	152	1	2	124	279	0.71	2.82
12	353	4	9	156	522	1.32	2.83
13	302	42	7	116	467	1.18	2.26
<b>TOTAL</b>	<b>23970</b>	<b>1234</b>	<b>738</b>	<b>13574</b>	<b>39517</b>	<b>100</b>	<b>21</b>
<b>ESALS/LANE</b>	<b>60.7</b>	<b>3.1</b>	<b>1.9</b>	<b>34.3</b>	<b>100</b>	<b>-</b>	<b>-</b>

**Table 7 Site Summary: Volume and Vehicle Class**

<i>Month</i>	<i>Total Volume</i>	<i>Monthly ADT</i>	<i>Monthly HCAD T</i>	<i>Passenger Vehicles</i>	<i>Passenger Vehicles %</i>	<i>Heavy Commercial Vehicles</i>	<i>Heavy Commercial Vehicles %</i>	<i>Heavy Commercial Vehicles in Driving Lane %</i>	<i>Heavy Commercial Vehicles in Passing Lane %</i>
Dec 2018	167266	5396	909	139093	83.2	28172.8	16.8	91.7	8.3
Jan 2019	144335	4656	951	114866	79.6	29469	20.4	93.7	6.3
Feb 2019	129514	4626	925	103624	80	25889.8	20	92.1	7.9
Mar 2019	167692	5409	991	136965	81.7	30726.7	18.3	91.4	8.6
Apr 2019	181026	6034	1016	150536	83.2	30489.7	16.8	89.4	10.6
May 2019	213594	6890	1085	179966	84.3	33628	15.7	67.9	32.1
Jun 2019	228705	7624	1036	197617	86.4	31087.6	13.6	67.8	32.2
Jul 2019	240734	7766	1013	209341	87	31392.7	13	69.4	30.6
Aug 2019	253765	8186	1244	215193	84.8	38572.2	15.2	76.7	23.3
Sep 2019	206755	6853	1294	167936	81.2	38818.6	18.8	93.5	6.5
Oct 2019	166363	6814	1107	132044	79.4	34319.1	20.6	92.5	7.5
Nov 2019	187005	6444	1164	152093	81.3	34911.7	18.7	91.1	8.9
<b>TOTAL</b>	<b>2286754</b>	<b>-</b>	<b>-</b>	<b>1899274</b>	<b>-</b>	<b>387478</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>190563</b>	<b>6391</b>	<b>1061</b>	<b>158273</b>	<b>83</b>	<b>32290</b>	<b>17</b>	<b>85</b>	<b>15</b>

###ESALs

<i>Month</i>	<i>ESALS EB Passing Lane</i>	<i>ESALS EB Driving Lane</i>	<i>ESALS WB Driving Lane</i>	<i>ESALS WB Passing Lane</i>	<i>Total ESALS</i>	<i>Driving Lane ESALS %</i>	<i>Passing Lane ESALS %</i>	<i>Pavement Life Decrease Months</i>
Dec 2018	15873	578548	780	11257	606458	4	96	4.7
Jan 2019	19913	106314	845	4721	131793	19	81	6.3
Feb 2019	17996	30201	939	2581	51717	40	60	25.5
Mar 2019	24521	14098	1197	4598	44414	66	34	29.8
Apr 2019	22506	9489	954	4149	37098	72	28	10.2



May 2019	23198	77	5065	1377	29717	83	17	5
Jun 2019	44270	0	10778	53	55101	80	20	4.2
Jul 2019	21800	0	6454	162	28416	77	23	4.9
Aug 2019	22546	0	6633	5013	34192	81	19	5.8
Sep 2019	20003	1217	803	13976	35998	94	6	6.8
Oct 2019	20075	5245	686	12445	38451	85	15	18.4
Nov 2019	24032	67495	743	13590	105859	36	64	52.7
<b>TOTAL</b>	<b>276734</b>	<b>812684</b>	<b>35876</b>	<b>73920</b>	<b>1199214</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>23061</b>	<b>67724</b>	<b>2990</b>	<b>6160</b>	<b>99934</b>	<b>61</b>	<b>39</b>	<b>14</b>

### ###Gross Vehicle Weight

<i>Month</i>	<i>GVW EB Passing Lane</i>	<i>GVW EB Driving Lane</i>	<i>GVW WB Passing Lane</i>	<i>GVW WB Driving Lane</i>	<i>Total GVW Kips</i>
Dec 18	936084	155229	108977	929969	2130259
Jan 19	1044413	70226	87357	662346	1864342
Feb 19	928605	63483	81834	471789	1545712
Mar 19	1216422	96811	120190	656042	2089466
Apr 19	1244314	120017	125942	627946	2118218
May 19	1475893	3230	746759	115061	2340943
Jun 19	2969408	16	1530595	6134	4506154
Jul 19	1515563	35	795934	18538	2330070
Aug 19	1591834	48	686107	529080	2807070
Sep 19	1285187	103428	118216	1234680	2741511
Oct 19	1123981	104255	98223	1035988	2362447
Nov 19	1245093	115656	107551	1045894	2514194
<b>TOTAL</b>	<b>16576798</b>	<b>832434</b>	<b>4607685</b>	<b>7333468</b>	<b>29350385</b>
<b>AVERAGE</b>	<b>1381400</b>	<b>69370</b>	<b>383974</b>	<b>611122</b>	<b>2445865</b>

### ###Overweight Vehicles

<i>Month</i>	<i>Total Number of Overweight Vehicles</i>	<i>Overweight / Total Volume</i>	<i>Overweight / Heavy Commercial Volume</i>	<i>Number Over 88,000 lbs</i>	<i>Number Over 98,000 lbs</i>
Dec 2018	6426	4.1	22.5	1191	706
Jan 2019	5368	4.1	19.6	1056	357
Feb 2019	4531	4.1	20	1266	297
Mar 2019	6744	4.4	23.7	1982	448
Apr 2019	6228	3.7	22	982	341
May 2019	5775	2.9	18.6	576	205
Jun 2019	11140	2.7	19.8	988	368
Jul 2019	5399	2.5	18.8	546	195
Aug 2019	6051	2.5	16.4	582	180

Sep 2019	6074	3	15.8	569	160
Oct 2019	6353	3.9	18.9	1180	234
Nov 2019	7755	4.4	23	2626	325
<b>TOTAL</b>	<b>77844</b>	<b>-</b>	<b>-</b>	<b>13544</b>	<b>3816</b>
<b>AVERAGE</b>	<b>6487</b>	<b>3.5</b>	<b>19.9</b>	<b>1128.7</b>	<b>318</b>

### ###Freight

<i>Month</i>	<i>EB Freight Tons</i>	<i>WB Freight Tons</i>	<i>Total Freight</i>	<i>EB Freight %</i>	<i>WB Freight %</i>
Dec 2018	160150	138035	298185	53.7	46.3
Jan 2019	197061	80711	277772	70.9	29.1
Feb 2019	176154	53112	229266	76.8	23.2
Mar 2019	238787	79915	318703	74.9	25.1
Apr 2019	238316	71312	309628	77	23
May 2019	241828	82288	324116	74.6	25.4
Jun 2019	471667	114813	586480	80.4	19.6
Jul 2019	230355	56870	287225	80.2	19.8
Aug 2019	243224	124422	367646	66.2	33.8
Sep 2019	215713	177272	392986	54.9	45.1
Oct 2019	210450	155730	366180	57.5	42.5
Nov 2019	231689	162079	393768	58.8	41.2
<b>TOTAL</b>	<b>2855395</b>	<b>1296560</b>	<b>4151955</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>237949.6</b>	<b>108046.7</b>	<b>345996.3</b>	<b>68.8</b>	<b>31.2</b>